
Euprymna scolopes
Courtesy Keoki Stender

Cephalopods

Heʻe or Hawaiian octopus

Octopus hawiiensis

Mūheʻe or Bobtail squid

Euprymna scolopes

SPECIES STATUS:
IUCN Red List - Not considered
Endemic

SPECIES INFORMATION: Heʻe or Hawaiian octopus (*Octopus hawaiiensis*) and mūheʻe or bobtail squid (*Euprymna scolopes*) are endemic cephalopods. Both are nocturnal predators using venoms or poisons to capture and kill their prey. Hawaiian octopus feed primarily on crabs and other mollusks and occasionally on fish. Mūheʻe feed mainly on the shrimp *Palemon debilis*, but also feed on small worms. Heʻe and mūheʻe have complex mating behaviors. Males use a specially modified arm to insert sperm into the female's mantle cavity. Eggs are laid on the bottom of the ocean in clusters. Heʻe guards their eggs. Larvae are pelagic. Mūheʻe bury themselves during the day. They protect themselves from predators on moonlit nights by masking their silhouette using organs that contain bioluminescent bacteria. Little is known of the habits of Hawaiian octopus.

DISTRIBUTION: Both species are found throughout the Hawaiian Islands.

ABUNDANCE: Not known for either species.

LOCATION AND CONDITION OF KEY HABITAT: Hawaiian octopus primary habitat is rocky substrate in waters ranging from approximately five to nine meters (15 to 30 feet) deep. Mūheʻe are found in sand and mud flats in shallow waters. This habitat is important to the squid, because it uses the substrate during the day to burrow, and its main prey is found in this area. Its habitat is in decline, especially in areas like Kāneʻohe Bay, Oʻahu where the bay is affected by urbanization and sedimentation.

THREATS:

- Habitat degradation is the primary threat to the mūheʻe and results from urbanization, runoff, and sedimentation. These threats not only alter its habitat but may negatively affect prey availability;
- Recreational collectors fish for Hawaiian octopus;
- Aquarium and research fishing pressure also is a concern for mūheʻe.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. In addition to common state-wide and island conservation actions, specific actions include:

- Restore and maintain habitat, especially for mūheʻe;
- Cooperate with other agencies to minimize pollution in areas such as Kāneʻohe Bay;
- Enforce regulations for aquarium trade and recreational collectors.

MONITORING:

- Continue and expand surveys of population and distribution in known and likely habitats.

RESEARCH PRIORITIES:

- Research life history and biological characteristics to better understand management needs.

References:

Gulko D. 2004. Hawaiian marine species for ESA Candidate listing revised Candidate list. Honolulu, HI: Division of Aquatic Resources, State of Hawaiʻi.

Hoover JP. 1998. Hawaii's sea creatures, A guide to Hawaii's marine invertebrates. Honolulu, HI: Mutual Publishing. 366 pp.